Driving to Distractions, Recreational Trips in Private Vehicles

William J. Mallett, MacroSys Research and Technology, 499 S. Capitol Street, SW Suite 504A, Washington, DC 20003. Tel: (202) 366-6663, Fax: (202) 366-3640, william.mallett@bts.gov.

Nancy McGuckin, Travel Behavior Analyst, Washington, DC 20016, Tel: (202) 366-8750, N_McGuckin@Rocketmail.com

Paper Number: 00-1372

ABSTRACT

An increasing amount of travel, both long and short distance trips, is made in private vehicles for recreation. Peak congestion around attractions and leisure spots can be worse than congestion in the city center at rush hour. Moreover, recreation travel within, to, and through metropolitan areas contributes to congestion problems, and points to the need for its incorporation into travel forecasting. The importance of leisure travel in State economies brings into question why this segment of travel is not more often studied. This paper uses the 1995 American Travel Survey and the 1995 Nationwide Personal Transportation Survey to examine the characteristics of recreational trips by private vehicle (PV). Recreational trips by other modes, such as transit and airplane are not included.

Data from the surveys show that PV-recreation trips make up about 14 percent of all local trips, 23 percent of all long distance trips, and about 15 percent of total vehicle kilometers traveled on America's roads. Recreation trips are not equally distributed among all groups of people, however. African Americans report about half the amount of recreation automobile trips and one-third the average kilometers as whites. Other differences by race/ethnicity indicate that Hispanic families tend to travel in larger groups when compared to African Americans or whites. Age, too, is a determining factor in the amount and type of recreational travel. Both the young and the old make more trips on a daily basis, but far fewer long-distance trips than those in middle-age.

INTRODUCTION

A large and growing amount of automobile travel is for recreational purposes. In 1995, nearly one-third of long distance trips and nearly one-fifth of local trips by private vehicle were for recreation (recreation and leisure are used interchangeably in this paper). Automobiles and other private vehicles are an attractive option for recreational travel for a number of reasons. Local recreation trips frequently involve traveling with other people (more so than other types of trips), often involve transporting a child or group of children, and may be made to places or at times not well served by other modes. For out of town trips, car vacations are a way to explore back-roads and new places, and to experience the great outdoors. The interstate highway system links the country with comfortable, fast facilities. And, gasoline prices in the 1990s have been historically low. Indeed, some travelers take their cars on vacation not for love, but for money. For families with children, the cost of air travel may be prohibitive. Moreover, car ownership is within the financial reach of all but the poorest families. The number of households without vehicles has fallen from 11. 5 million in 1977 to 8 million in 1995 (*1*). Long distance travel by car also results from the fact that many people simply do not like to fly.

Growing incomes, increased vehicle availability, and improved infrastructure, among other things, have led to increases in private-vehicle recreation travel. Social, economic and demographic factors will most likely increase highway travel for recreational purpose in the future. For instance, baby boomers, the large segment of the population born between 1946 and 1964, are moving into their highest traveling years, likely resulting in more cross-country and

foreign travel. The impact of computer technology and telecommunications, through such things as telecommuting, e-shopping, and e-banking, remains more unclear. It may be that these conveniences will free up time for people to make more trips for recreation. On the other hand, some researchers believe interactive computer games and services and the vast array of television channels may encourage people to stay at home rather than recreate away from home, reducing the number of recreation trips. Historically, enhanced communication with distant people and information about distant places has generally led to more travel not less (*2*). A virtual tour of the Grand Canyon is likely to make someone more, not less, likely to visit this natural wonder.

Understanding the characteristics of recreational travel and the variables which influence the choice of an automobile for recreational trips is useful in several areas, including understanding trade-offs for high speed rail demand modeling, and helping manage the seasonal congestion around attractions and recreational areas. Rodis, Richardson, and McPherson note that if planners are to respond to the growing environmental and social concerns about the impact vehicles have on our cities, we have to understand traffic flows across the entire road network (*3*). High levels of pollution are generally not attributed to just local traffic flows, but to the build-up of vehicles from all over the road system at a specific place and time. Previous research has included recreational trips as part of the >non-work= trips that are becoming a larger and larger share of total travel. Horowitz and Farmer (*4*) argue that since many state economies depend heavily on recreational activities, that recreational trips might be important enough to require a closer look than this trip type has received in the last three decades. Even with the increasing amounts of time and energy Americans, especially >baby boomers=, devote to

recreation, recreational travel has not received its share of attention in planning.

Using the 1995 American Travel Survey (ATS) and the 1995 Nationwide Personal Transportation Survey (NPTS) this paper examines recreational trips taken in automobiles and other types of private vehicles. Private vehicle (PV) recreational travel is examined by several different social and demographic variables including age, gender, and ethnic and racial composition of the traveler and the household. Data from the NPTS are from the travel day file, which includes trips of all lengths made by respondents on a single day. In this paper these trips are referred to as local travel, since about 95 percent of these trips are 48 kilometers (30 miles) or less. The American Travel Survey includes trips of 161 kilometers (100 miles) or more away from home and are referred to as long distance travel. Together these sources represent the best estimate of travel of all distances.

To make the trip purpose definitions more comparable, the NPTS trips used in this analysis include 'vacation' and 'other social/recreational' travel, excluding 'visiting friends and relatives.' We did not include 'going out to eat' as recreational travel, since there was no comparable purpose in the ATS. The ATS trips include 'sightseeing,' 'outdoor recreation,' 'rest or relaxation,' and 'entertainment' trips. Private vehicle in the NPTS comprises automobile, passenger van, sport-utility vehicle, pickup truck, other truck, recreational vehicle, motorcycle, and other personal vehicle. In the ATS private vehicle is made up of car, truck, or van, other truck, rental car, truck or van, motorcycle, and recreational vehicle. More details on the data used for this research are found at the end of this paper.

PRIVATE VEHICLE RECREATIONAL TRAVEL IN THE UNITED STATES

Recreation is the motivation for a large amount of local and long distance travel, and most recreation travel is accomplished by means of private vehicles (PV). Recreational trips make up about 17 percent of local trips by purpose, with about 85 percent of such trips made by PV. In total, then, about 14 percent of all local trips are PV-recreation. An average household in the U.S. generates almost 4.5 local PV-recreation trips per week. These trips include cultural and hobby activities, such as attending movies and concerts, sports events, and weekend outings.

PV-recreation trips are a bigger share of long distance trips. About 29 percent of long distance trips by purpose in 1995 were for recreation, and 81 percent of recreation trips were taken by personal vehicle. Hence, nearly one quarter (23 percent) of all long distance trips were private vehicle trips for recreational purposes, second only to visiting friends and relatives as the most important purpose-mode combination. The largest number of PV-recreation trips were for rest or relaxation (41 percent), followed by outdoor recreation, skiing, fishing, and the like (25 percent), entertainment (19 percent), and sightseeing (14 percent). Local PV-recreation trips contributed about 446 billion vehicle kilometers (VKT) (277 billion miles) and long distance trips another 137 VKT (85 billion miles). Together local and long distance PV-recreation trips contributed about 15 percent of all vehicle kilometers traveled in 1995.

Since 1977 the number of long distance PV-recreation trips has doubled. PV-recreation trips grew the most of any purpose-mode combination in absolute terms, with 123 million more trips in 1995 than in 1977. Local household trips for recreation by private vehicle increased by 33 percent and local kilometers increased 45 percent over this period.

But just looking at the total amount of travel does not tell us the whole story. The desire and ability of people to travel for recreation by private vehicle varies quite dramatically across different groups of the population. The differences point to a mix of cultural preferences, inequalities in access to recreational resources and mobility, and ultimately to implications for future demand. The factors considered in this analysis include household income and education, race and ethnicity, age, and travel party size.

PV-Recreation Travel by Income and Education

Trip making in general increases with increasing income and education and that is true for recreational trips as well. Both the number of trips and kilometers traveled increase with higher income and education. Data from NPTS on trips per capita by income shows that people in the highest income group take nearly twice the number of trips as people in the lowest and travel twice the kilometers (Table 1). People in households earning $75,000 or more made about 1.7 long distance PV-recreation trips each, more than 4 times the number made by people in households earning less than $25,000 (0.4 trips per capita). However, people in low-income households are more dependent on private vehicles to make long distance recreational trips than people in high income households, and the gap widens as trip length increases (Figure 1). For people in households with an annual income over $100,000 flying becomes a significant option for trips of 644 to 805 kilometers (400 to 500 miles) away from home (644 to 805 kilometers or 800 to 1,000 miles roundtrip). About 30 percent of all PV and air trips combined for recreation are taken by air at this distance. For households with income less than $25,000, this 30 percent

threshold is not approached until trips of 1,290 to 1,450 kilometers one-way (800 to 900 miles) or 2,575 to 2,896 kilometers roundtrip (1,600 to 1,800 miles). Table 2 shows the relationship between education level and local and long distance PV-recreation trip making.

PV-Recreation Travel by Age

Age, too, is a determining factor in the amount and type of recreational travel. Both the young and the old make more trips locally, but fewer long-distance trips than those in middle-age groups (see Figure 2). With local recreation travel, children under 18 are driving or being driven to 30 percent more destinations than the next most active group -- their grandparents (travelers over 65). Children account for 290 trips per year, or a recreational trip made every four out of five days. The opposite is true in terms of kilometers, these two age groups make shorter trips than the middle-age groups. The longest trips are being made by the 60 to 64 year olds, followed by the 40 to 59 age group with 22.1 kilometers (13.7 miles) and 20.1 kilometers (12.5 miles) on average per trip respectively.

The situation is reversed for long distance travel (Figure 2). PV-recreation trips per capita increase with age, peaking with those in their mid-40s to mid-50s, who took about 1.3 trips annually. People over 75 took the least trips. There appears to be no increase of PV-recreation travel when people reached 65, the traditional retirement age, although driving for leisure trips remains at a relatively high level until people reach 70. People between 65 and 69 made about 0.9 trips per person on average per year. Nevertheless, the doubling of PV-recreation trips between 1977 and 1995 has resulted, to a large extent, from the growth in leisure travel by people over the

age of 45, including those 65 and older (*5*).

PV-Recreation Travel by Race/Ethnicity

Racial and ethnic minorities are considerably less mobile than whites in terms of PV-recreation trips. Recreational travel is to some extent like discretionary expenditure, it is only enjoyed after required travel is accomplished. Thus, non-Hispanic whites travel more than African-Americans and Hispanics for recreation because of higher income. However, even within the same income group, there is a large gap in the number of PV-recreation trips and kilometers traveled between the non-Hispanic white majority and African Americans and Hispanic minorities (Table 3). Low income African Americans made half the number of local recreation trips as their low-income non-Hispanic white counterparts. The disparity between Hispanics and non-Hispanic whites is somewhat less, with Hispanics making about 70 percent of the trips that whites make in the lowest income category. Average trip length is less consistent, however, when comparing between groups in the same income class.

The disparities are even greater when we look at long distance travel. Low-income African Americans made a quarter of the long distance PV-recreation trips as non-Hispanic whites in the same income category. Hispanics made about 40 percent the number of long distance trips as non-Hispanic whites. Not only do they make the most PV-recreation trips, but non-Hispanic whites along with Hispanics are the most dependent on personal vehicles to make their leisure trips. Indeed, both groups made about 8 out of 10 leisure trips by PV. African Americans made only about 3 out 4 leisure trips by PV, with a much greater proportion by

intercity bus than whites.

Hispanics, African Americans, and non-Hispanic whites had the same share of overnight stays on PV-recreation trips in 1995 (about 80 percent). When they travel long distance for recreation by private vehicle African Americans were more likely than either Hispanics or non-Hispanic whites to stay with friends and relatives. African Americans stayed with friends and relatives on a quarter of all PV-recreation trips, twice the share of the other two groups. African Americans are also more likely to stay in a hotel or motel than non-Hispanic whites, 40 percent of the time compared with 34 percent, but less than Hispanics who stayed in a hotel or motel on nearly half of all PV-recreation trips. Non-Hispanic whites are more likely to stay in an owned cabin, condominium, or resort accommodation (12 percent of trips) compared with 5 and 2 percent for Hispanics and African Americans respectively.

Average Party Size on PV-Recreation Trips

Average travel party size for recreation trips is higher than for other purposes, part of the fun is sharing the trip with other people. The average vehicle occupancy on local travel overall is 1.6, whereas on local recreation trips occupancy is about 2.2. Similarly with long distance travel party size is larger with leisure travel -- about 3.9 compared with the total average of 2.7. Only a quarter of PV-recreation long distance trips were taken alone compared with 68 percent of PV-business trips. Indeed, most PV-recreation long distance trips were taken by two adults together (32 percent) or by two adults and at least one child (28 percent).

There also appear to be cultural differences with party size. Hispanics travel in larger

parties when traveling long distance compared with non-Hispanic whites and non-Hispanic African Americans. Average party size on long distance trips in 1995 was 4.2 for Hispanics and about 3.5 for both African Americans and whites (Table 4). Hispanics of any race also report traveling in larger parties on local travel -- nearly 20 percent of local PV-recreation trips have five or more people together. In contrast, non-Hispanic whites are more likely to travel alone on local trips, almost a quarter of recreational trips made by whites are single-occupant trips. Nevertheless, 66 percent of local trips by non-Hispanic whites have two to four people on the trip, similar to the 66 percent of trips reported by African-American respondents. Hispanics also average more person kilometers of travel on local recreational trips.

CONCLUSION

Recreation trips are a varied category, from a trip to the local soccer field to a mountain ski resort, from a weekend jaunt with the family to an adventure of a lifetime. Leisure trips by any mode account for a quarter of long-distance travel and nearly one out of five local trips; in both cases surpassing the proportion of trips for business/commuting. Trips in private vehicles are an important segment of this travel, necessitating a better understanding of travel to and around large attractions such as beaches, historic sites, and national parks. The data here show that there are significant differences in PV-recreation travel along the lines of age, race, and income.

As expected income and education are important drivers of recreational travel. As income rises people have more money to spend on recreational pursuits and the means of accessing them

in terms of vehicle availability, air fare, etc. We obviously should expect, therefore, that if income rises in the future that PV-recreation trips will rise with it.

Income inequality explains to some degree differences between different racial and ethnic groups. African-Americans and Hispanics travel less than non-Hispanic whites partly because of lower income, and the related factor of lower vehicle ownership. When controlling for income, however, differences among different racial and ethnic groups still remain, suggesting that there are other factors at work. It is possible minority groups travel less for recreation because many attractions do not cater to their cultural tastes, or possibly because traveling represents a more challenging and uncomfortable experience. It may be that as income and auto-ownership rates equalize between minorities and the white majority and as attractions become more diverse and welcoming to diverse visitors, the rate at which African-American and Hispanic families travel for recreation will increase. Certainly this represents a large potential future market.

Age is another important factor. For local recreation, children and those aged 60 to 64 years make the most trips, but middle-aged travelers drive farther. People in their middle ages also take more long distance trips for recreation than other age groups. This raises a question about what will happen as baby-boomers age. Will they be looking for distractions closer to home or will they continue traveling longer distances for recreation into their golden years? The effect of the changing demographic make-up of society may already be seen in the higher travel rates of people now in their early sixties. As workers retire earlier, still active and interested in adventure, recreational travel in the 60-69 age group may increase.

The use of computers and other technology may reduce work travel, shopping, and other

personal business, but travel for recreation is probably aided by such devices. Resort timeshares and cabins in the woods are advertised on-line with pictures and the ability to reserve a weekend getaway at bargain rates. Anecdotal evidence suggests that weekends away are becoming more popular as career pressures make two weeks away from work seem like more trouble than it is worth. Time-use survey respondents report that they would rather have an increase in 3-day weekends than longer vacation periods (*6*). Local recreational trips may also be inspired by Internet-sites such as sidewalk.com that list local happenings.

Recreational travel is likely to be a significant part of travel growth in the coming years as a result of social, demographic, and technological change. And then, like now, a large part of that travel will be done in cars and other types of private vehicles. Consequently, trends in recreational travel bear watching as do social and cultural factors that motivate people to travel across town or across country for such purposes.

ABOUT THE SURVEY DATA USED IN THIS RESEARCH

The Nationwide Personal Transportation Survey (NPTS) is a survey of typical daily travel performed by people all over the United States. The travel survey is conducted every five to seven years by the United States Department of Transportation and collects information about trips by all modes of transportation. It is the only authoritative source of national data on the amount and nature of daily personal travel, and the only source that allows us to assess how travel has changed in the nation as a whole. The 1995 survey is the fifth in a series that began in 1969, and was continued in 1977, 1983, and 1990. Trips in the NPTS Travel Day file are one-

way segments of travel. Each stop made for a distinct purpose ends a trip, and >to home= was coded as a separate purpose. The 1995 trips were also post-coded into round trips for comparison with the 1990 NPTS -- the 'main' purpose of the trip became the to- and from-purpose, such as to-and-from work. This is the trip definition used in this analysis.

The 1995 American Travel Survey (ATS) was conducted for the Bureau of Transportation Statistics by the U.S. Bureau of the Census. The precursor to the ATS was the 1977 National Travel Survey conducted as a component of the Census of Transportation. The American Travel Survey contains information on the origin, destination, volume, and characteristics of long distance trips (where the destination is 161 kilometers [100 miles] away from home or more) made by residents of the United States. The data provide insight into Americans long-distance transportation choices, including foreign and domestic travel. The information in this report uses the person trip which is a roundtrip taken by an individual. The ATS also includes information on household trips which is a round trip on which one or members of the household traveled together. If three people from the same household traveled together, they would have taken one (household) trip and three person trips. If one individual took three different trips during the year, he or she would have taken three (household) trips and three person trips. A leg of a journey to- or from- a destination may be less than 161 kilometers (100 miles). The round trips can be split into two one-way trips (O-D, D-O) for one-way trip analysis.

Using these two data sources together to say something about the whole of personal travel presents challenges (*7*). Although the target populations are the same, ATS used an

address-based sample frame and therefore includes more low-income households. The ATS imputed missing income information, and the NPTS did not. The analysis here uses >vehicle trips= as the mode under study. The NPTS defines a vehicle trip as a trip in a private vehicle for which the primary driver for the trip is a member of the sampled household. The ATS did not identify the primary driver for the long-distance vehicle trips. For analysis involving vehicle trips we must assume that all household trips made in a private vehicle qualify (*8*).

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